**202 Geometry: Second Semester Objectives 2012**

Students should be able to:

1) Recognize and apply proportional parts of triangles with parallel lines and its converse.

2) Use the Triangle Midsegment Theorem.

3) Recognize and apply parts of similar triangles (including perimeter and special segments such as medians, altitudes, and angle bisectors)

4) Find the geometric mean between two numbers.

5) Solve problems involving relationships between parts of a right triangle and the altitude to its hypotenuse.

6) Use the Pythagorean Theorem and its converse.

7) Determine whether a triangle it acute, right or obtuse given the lengths of its sides.

8) Solve for sides of right triangles using properties of special right triangles.(45-45-90 and 30-60-90)

9) Find trigonometric ratios in right triangles and solve problems using trigonometric ratios.

10) Solve problems involving angles of elevation and angles of depression.

11) Find the sum of the interior angles of a polygon.

12) Find the sum of the exterior angles of a polygon.

13. Find the measure of and interior angle of and exterior angle or number of sides of a regular polygon.

14) Recognize and apply the properties of parallelograms.

15) Recognize the conditions that assure a quadrilateral is a parallelogram.

16) Recognize and apply the properties of rectangles, rhombi, and squares.

17) Recognize and apply the properties of trapezoids.

18) Solve problems involving medians or trapezoids.

19) Prove that a set of points in a coordinate plane form a particular quadrilateral using slope, midpoint formula and/or distance formula.

20) Position and label quadrilateral for use in coordinate proof.

21) Identify and use parts of circles including radius, diameter, chord, and center.

22) Recognize major arcs, minor arcs, semicircles and central angles and their measures.

23) Find arc length.

24) Recognize and use relationships between arcs and chords and chords and diameters

25) Find the measures of inscribed angles.

26) Find the measures of angles of inscribed polygons.

27) Use properties of tangents.

28) Solve problems involving circumscribed polygons.

29) Find measures of angles formed by lines intersecting on or inside a circle.

30) Find measures of angles formed by lines intersecting outside the circle.

31) Find the measures of segments that intersect in the interior of a circle.

32) Find the measure of segments that intersect in the exterior of a circle.

33) Write the equation of a circle and graph the circle on a coordinate plane.

34) Find the perimeter and area of parallelograms

35) Find the areas of triangles, trapezoids and rhombi.

36) Find the area of circles and regular polygons.

37) Find the areas of irregular figures.

38) Find the areas of irregular figures in the coordinate plane.

39) Solve problems involving geometric probability.

40). Solve problems involving sectors and segments of circles.

41) Identify and use 3 dimensional figures.

42) Draw 2 dimensional figures (nets) for 3 dimensional figures.

43) Find the lateral area, surface area, and volume of prisms, cylinders and cones.

44) Find the lateral area, surface area and volume of regular pyramids.

45) Recognize and define basic properties of spheres.

47) Find the surface area and volume of spheres and hemispheres.

48) Identify congruent or similar solids.

49) State the properties of similar solids.